

Wednesday, August 24, 2016 11:33:41 AM

Page 1

100	BAND SAW	0.00			
100					
Bandsaw	Memo	0.00			
Jeaspa Bandsaw	Cut blanks 5.850				
	" Note: 1 Blank Makes 3 Parts				
110	HAAS CNC VERTICAL MACHINING #1	0.00			
110					
HAAS 1	Memo	0.30			
HAAS CNC vertical machine #1	1-Machine per folio FA941				
	FOLIO REV: <u>AA</u>				
	DWG REV: <u>C</u>				
	2-Deburr any rough edges				
120	QC2- Inspect parts off machine FAI/FAIB	0.00			
120					
QC	Memo	0.02			
Quality Control					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

Work Order ID 150112

Wednesday, August 24, 2016 11:33:41 AM

150112

Page 2

Item ID: D2858-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Hinge Bracket
Start Date: 8/11/2016 Start Qty: 14.00 ***14*** Cust Item ID:
Required Date: 8/24/2016 Req'd Qty: 14.00 ***14*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.05				15	0		DAS 49 9-89 16/10/14
140 *140* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.02				(X15)	0		226/10/17 BEB
150 *150* Powdercoat Powder Coating	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum m 135418. Memo START TIME: 3:25 OVEN TEMPERATURE: 200. FINISH TIME: 3:55	0.00 0.02				15	0	16-10-17.	DAS 34 9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause				FAULT CATEGORY																					
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐		Power Loss/Surge ☐		Positioned Wrong ☐															
Design ☐		Operator ☐		Bending ☐		Set-up ☐		Folio/Program ☐		Outside Dimensions ☐															
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Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐		Out of Sequence ☐		Part Moved ☐															
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐		Off-set ☐		Drawing ☐															
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐		Mislabeled ☐		Finish ☐															
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐		Fit/Function ☐		Misread ☐															
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐		Misaligned/off center ☐		Turning Sequence ☐															
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____																					
Misidentified ☐		Past Due ☐																							

Work Order ID 150112

Wednesday, August 24, 2016 11:33:41 AM

150112

Page 3

Item ID: D2858-1

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Hinge Bracket

Start Date: 8/11/2016 Start Qty: 14.00

14

Cust Item ID:

Required Date: 8/24/2016 Req'd Qty: 14.00

14

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start

NR1

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

QC3- Inspect Part Finish

0.00

160

QC

Memo

0.02

Quality Control

15

DAS
38

OCT 18 2016

170

Identify as per dwg & Stock Location: 5010

0.00

170

Packaging

Memo

0.02

Packaging

15 OCT 20 2016

DAS
6
9.89

180

QC21- Final Inspection - Work Order Release

0.00

180

QC

Memo

0.23

Quality Control

16/10/20

AD 16.10-20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
Date :	Step #:	QTY Effective :			MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By	
					Lead hand / Supervisor Approval Verification	
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Root Cause		FAULT CATEGORY				
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	
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Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	
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Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____				
Misidentified ☐	Past Due ☐					

Picklist Print

Wednesday, August 24, 2016 11:33:44 AM

Page 1

Work Order ID: 150112

150112

Parent Item: D2858-1

D2858-1

Parent Item Name: Hinge Bracket

Start Date: 8/11/2016

Required Date: 8/24/2016

Start Qty: 14.00

Required Qty: 14.00

Comments: IPP C00.06.22Removed P/O for powder coatEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B1.500X01.25 0		Purchased	No			100	f	8.4480	0.163	2.402105			

M6061T6B1 500X01 250

6061-T6 Bar 1.50 x 1.25

Location

Loc Qty

Loc Code

MAT003

8.448

m134158

8.448

2.5

DAS

452016-10-11
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
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Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

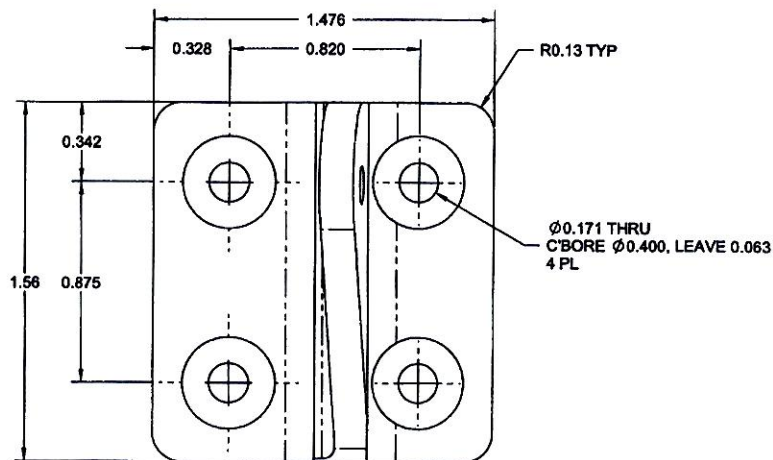
DART AEROSPACE LTD		Work Order:	150112
Description: Hinge Bracket		Part Number:	D2858-1
Inspection Dwg: D2858 Rev: C		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.171	+0.005/-0.001	.171	✓		Vern	Fk-04
Ø0.400	+0.006/-0.001	.400	✓		"	"
R0.125	+/-0.010	.125	✓		R-G.	
0.328	+/-0.010	.328	✓		Vern	Fk-04
0.820	+/-0.005	.820	✓		↓	↓
1.476	+/-0.010	1.476	✓			
0.342	+/-0.010	.343	✓			
0.875	+/-0.005	.875	✓			
1.56	+/-0.030	1.564	✓			
0.147	+/-0.010	.150	✓			
0.717	+/-0.010	.719	✓			
0.697	+/-0.010	.696	✓			
0.229	+/-0.010	.230	✓		↓	↓
R0.125	+/-0.010	.125	✓		R-G.	
R0.063	+/-0.010	.063	✓		R-G.	
0.063	+/-0.010	.060	✓		Vern	Fk-04
0.126	+/-0.010	.124	✓		↓	↓
0.630	+/-0.010	.630	✓			
Ø0.354	+/-0.010	.354	✓			
0.965	+/-0.010	.964	✓			
Ø0.166	+0.005/-0.001	.167	✓		↓	↓
R0.125	+/-0.010	.125	✓		R-G.	
32.7°	+/-0.5°	32.7°	✓		A-G.	

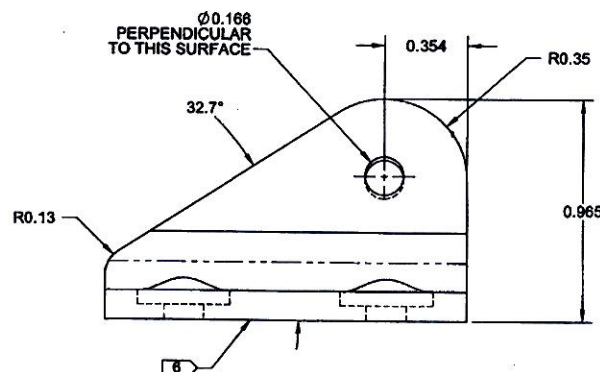
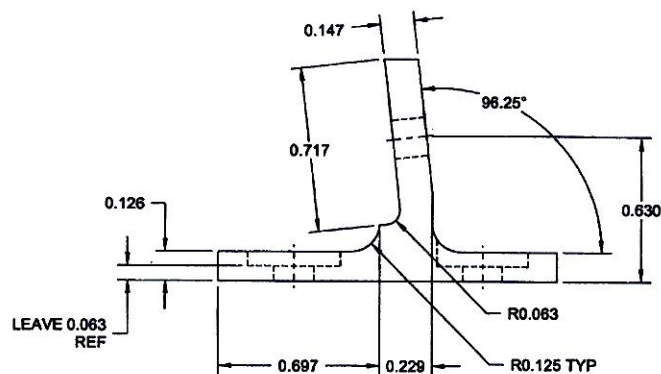
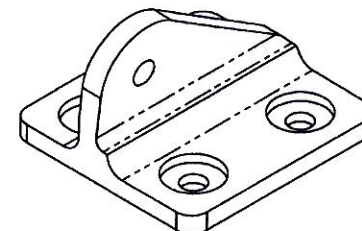
Measured by:	DAS 44	Audited by:	9-89 49	Preliminary Approval:	
Date:	16-10-14	Date:	16/10/14	Date:	

Rev	Date	Change	Revised by	Approved
A	07.10.30	New Issue	KJ/EC/DD	
B	11.11.07	Dwg Rev updated	KJ	



STOP COPY
RETURN TO
ENGINEERING
INCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO 150112 MJS
16-08-24



RELEASED
2010-11-26

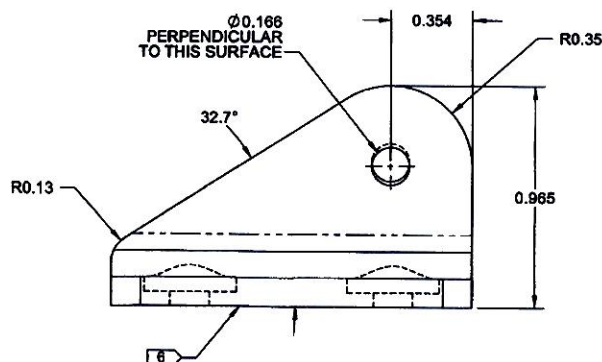
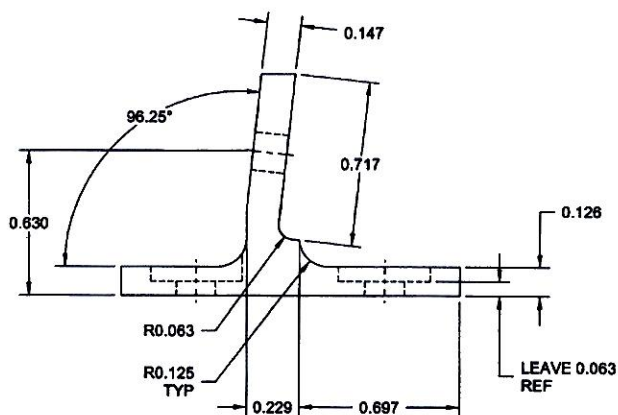
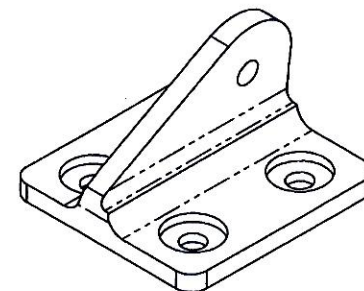
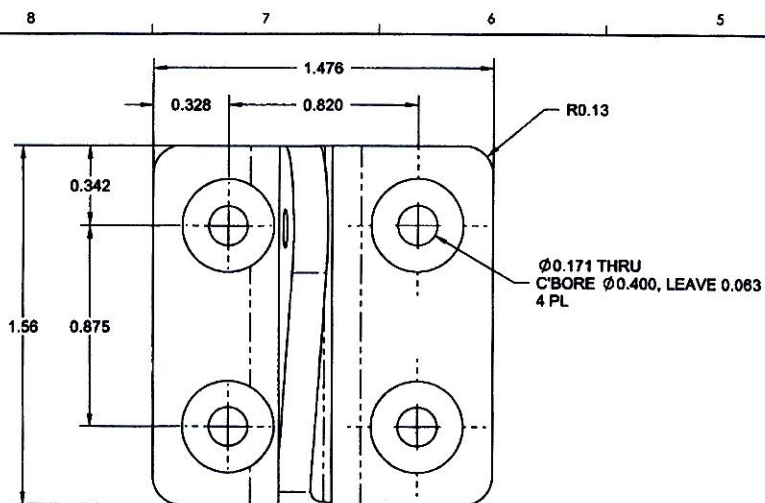
D2858-1 HINGE BRACKET

NOTES:

- 1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-225/8 OR QQ-A-200/8 OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART P/N "D2858-1" PER DART QSI 044 6.1
- 7) WEIGHT: 0.04 lbs

C	REDRAW TO CURRENT STD, REMOVE ENGRAVED P/N, IDENT. NOW W/ MARKER (AS-1, AS-2), REF PAR 10-040	CP	10.10.12
B	0.717 WAS 0.667, 1.56 WAS 1.559	KE	99.02.28
A	NEW ISSUE	KE	98.12.14
REV.	DESCRIPTION	BY	DATE
DESIGN	KE		
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.10.12		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D2858	REV. C SHEET 1 OF 2
TITLE HINGE BRACKET	SCALE NTS
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D2858-2 HINGE BRACKET

NOTES:

- 1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-225/8 OR QQ-A-200/8 OR ASTM B211 OR ASTM B221
REF DART SPEC M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: DART P/N "D2858-2" PER DART QSI 044 6.1
- 7) WEIGHT: 0.04 lbs

RELEASED
2010-11-26

DESIGN	KE	DART AEROSPACE LTD	
DRAWN	JP	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D2858	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		HINGE BRACKET	NTS
DATE	10.10.12	COPYRIGHT © 1999 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	